#### Nigerian Agricultural Sector Workshop Lagos, June 9-10, 2009

#### Opportunities for Investment

in

Cassava, Rice & Sorghum



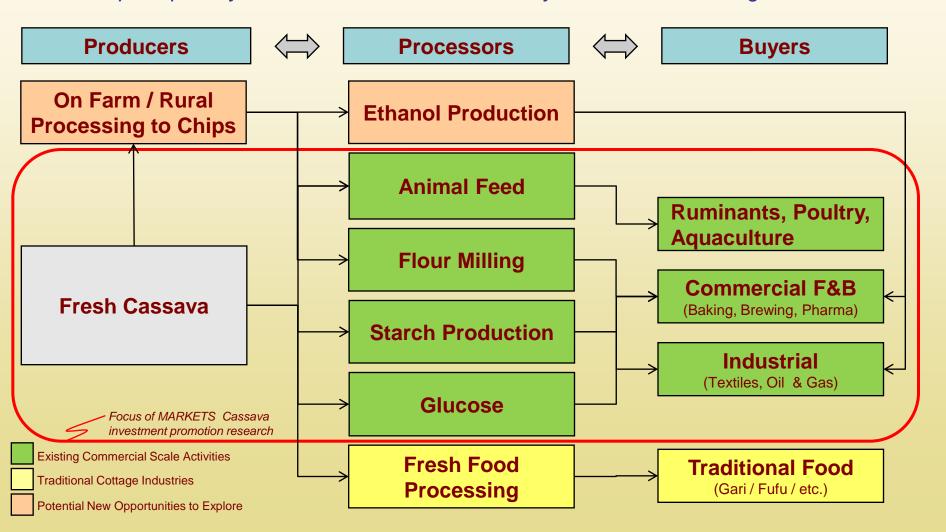
**MARKETS** 

#### The Cassava Value Chain



#### Building a Competitive Cassava Industry Market Map: Cassava

While there are many uses for commercially processed cassava, the majority of processors want fresh cassava. Chips appear an attractive solution to transport challenges, but the market size and price penalty relative to fresh make it currently unattractive on a large scale



### Critical Investment Promotion Challenges in Cassava Solving the Input Supply Chain Challenge

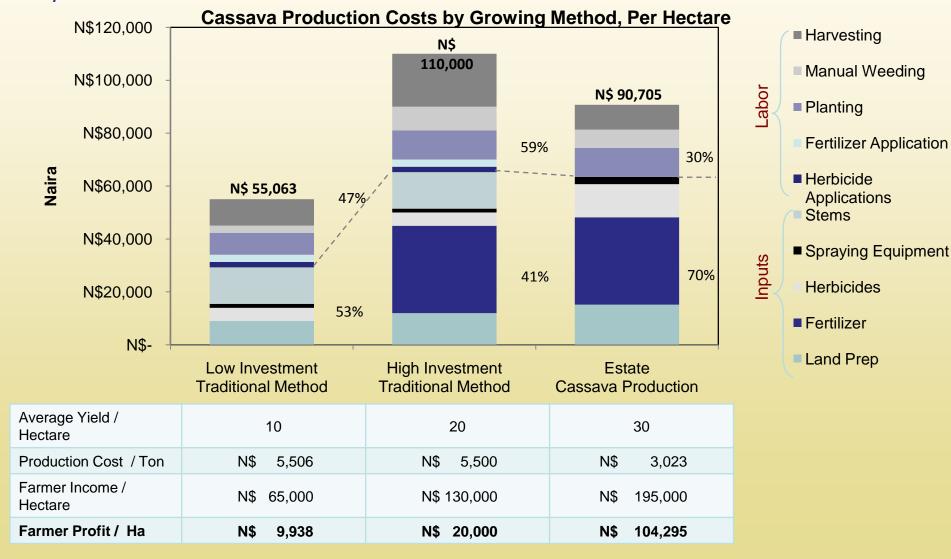
Improving the competitiveness of the entire agricultural value chain is critical to creating stable and growing markets for the commodities farmers produce

Challenges Within The Value Chain	MARKETS Support	
Production		
Crop Finance		MARKETS has been successful at assisting rural farmers with finance, inputs, and extension
Yield / Hectare		
Consistent Volume	$\bigcirc$	Long growing cycle and ease of entry/exit from cassava growing for small scale farmers results in production and price fluctuations every +/- 3 years
Transport		
"Last Mile" Logistics	$\bigcirc$	Cost of cassava transport doubled by the waiting time for loading of cassava
<ul> <li>Perishability</li> </ul>		Commercial value declines substantially 48 hours after harvesting
Processing		
• Energy	$\bigcirc$	Lack of consistent grid power. Price of diesel
Water	$\bigcirc$	Significant challenge for some producers
Access to Capital	$\bigcirc$	High commercial rates. Limited interest from banks to lend



#### Building a Competitive Cassava Industry Production: Cost to Produce Fresh Cassava

Access to finance is a critical factor in supporting farmers' ability to engage in improved activities.



## Building a Competitive Cassava Industry Transport: High Cost to Move Cassava

"I did an analysis and don't see how anyone can competitively transport fresh cassava more than 30 km. At that point, the transport costs exceed to the product value" (commercial processor).

"I pay more to transport the cassava than I do to buy it" (commercial processor).

**Fuel Costs** 

 Fluctuations in fuel costs are passed on directly to the farmers or processors

**Product Density** 

• Cassava has low value / weight due to 70% water content. Commercial processors show no interest in dry cassava

Availability of transport

 Current transport utilizes ad hoc contracting of empty trucks headed south. Consistent supply of cassava to processors will require a more formal system

**Transport Time** 

 Loading of cassava is time intensive, especially if farmers delay harvest until truck arrive and truck is required to make multiple stops

 Poor transport system can cause substantial delays in moving goods over long distances. After accounting for loading time, the transport window to the mill gate is less than 36 hours

Speed (Stable v. Perishable)

 Poor transport system can cause substantial delays in moving goods over long distances. After accounting for loading time, the transport window to the mill gate is less than 36 hours

Transport limitations favor processing close to farm where possible. New processing investment that is co-located with production will make it increasingly difficult for any processor to be competitive with significant transport costs

# Potential Commercial Support Activities for MARKETS Cassava Opportunities

Primary opportunities to expand or connect current value chain. Possibility to extend in to ethanol or more complex products

Develop a coordinated solution to transport challenges for exiting processors

- Investment by current commercial processors in backward integration into transport
- Attract specialized transport provider to build business

Support rapid expansion of commercial scale farming / estate model

- Attract commercial farming investors to Nigeria
- Package customized outgrower support programs optimized for estate models

Attract co-located processing investment

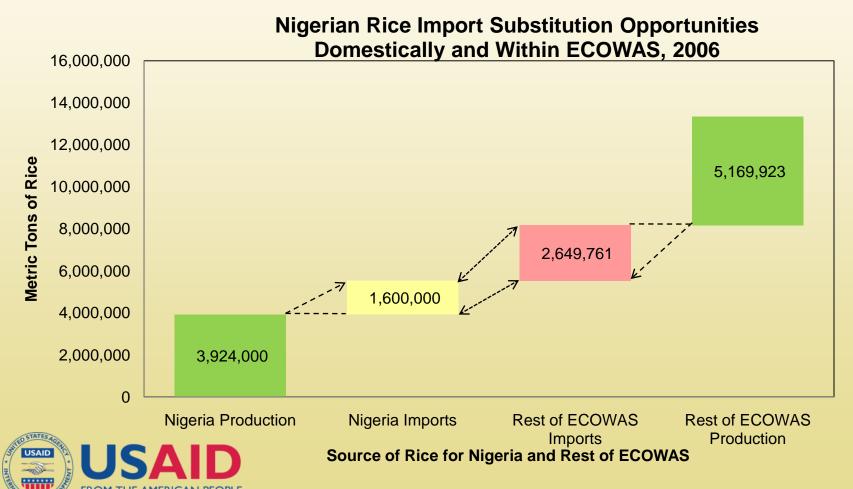
- Single investor or co-located investment with contract buying agreements
- Intermediate processing of cassava roots into a commercial starch or sugar product
- Potential opportunity for ethanol

#### The Rice Value Chain



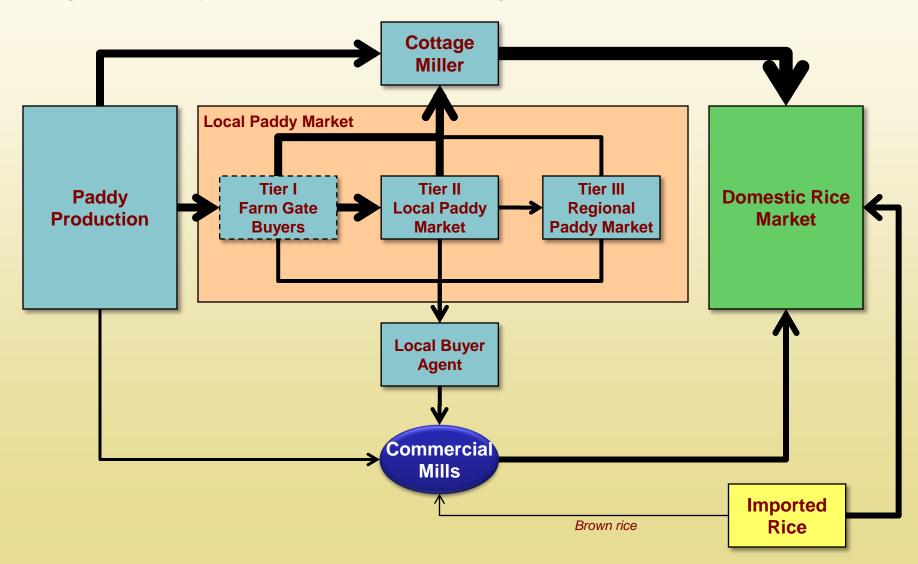
#### Building a Competitive Rice Value Chain Addressable Market Size is NOT the Problem

Nigeria has substantial market growth opportunity, IF the industry can competitively scale production. Other players are interested in the large (and growing) domestic and regional market.



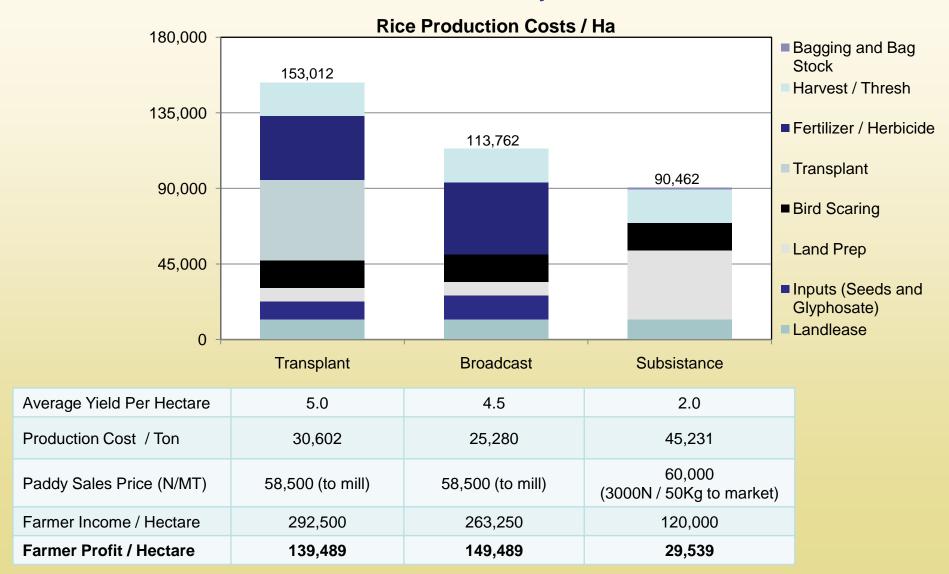
# Building a Competitive Rice Industry Market Map: Paddy Distribution

Understanding the incentives for farmers to sell into different channels is critical to driving more paddy into commercial processing



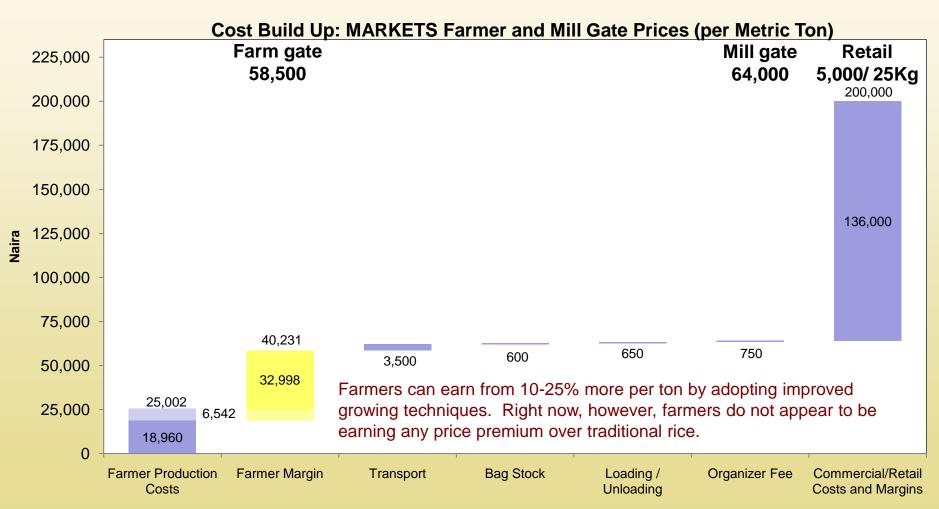
### Building a Competitive Rice Industry – change yields to 4.5/5.0

Production: Cost to Produce Paddy



# Building a Competitive Rice Industry Production: Improved Rice Profitability to Farmers

Farm gate pricing is for out growers, other farmers, and other non LBA intermediaries. Farmers participating in outgrower schemes may see reduced production costs from subsidies or volume buying participation. This would impact farmer margin, but not farm gate price.



# Building a Competitive Rice Industry Processing: Optimizing Sales Channels and Processing Type

The competitiveness of rice depends on tying quality of paddy to quality of processing.

Farmers must have incentives to sell high quality paddy to the commercial market, and paddy volumes must be sufficient to allow commercial processors to avoid low quality paddy.



#### **Effective Branding and Customer Experience**

- Consistency
- Taste
- Fluffing
- Stickiness

Source: MARKETS analysis; processor interviews

# Potential Commercial Support Activities for MARKETS Rice Opportunities

Two attractive options exist for expansion or connection investments in commercial rice processing. Another option offers the potential to dramatically improve the primary limiting factor in traditionally processed rice (stones and visual appearances)

Increase Commercial Processing Investments

 Promote green field or existing mill revitalization opportunities in attractive states that offer the potential for large-scale out grower schemes

Develop For-Profit
Extension and Financial
support

 Support investors or local service providers interested in "Privatizing the MARKETS model"

Develop a "post-cottage milling" rice processing facility to serve major wholesale markets

- Provide medium- to large-scale destoning, polishing, size grading, and consumer packaging services to the wholesale market
- Provide toll services to wholesalers or large scale retail buyers

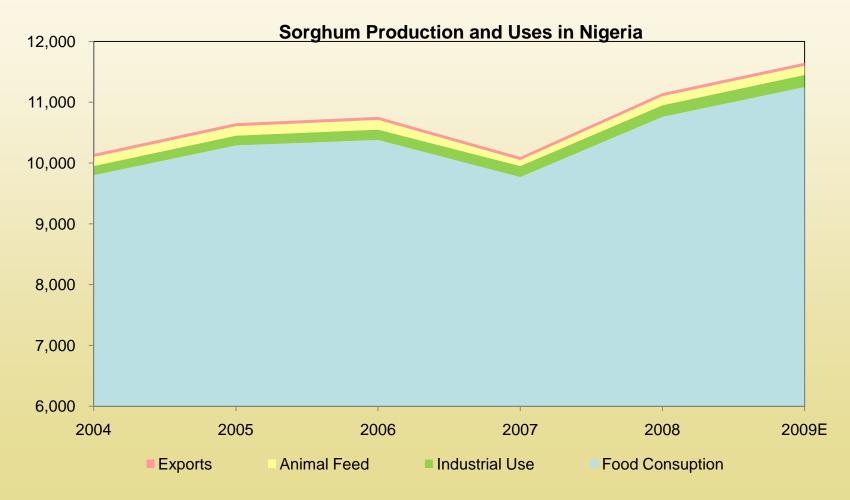
#### The Sorghum Value Chain





# Building a Competitive Sorghum Industry Sorghum Market Size in Nigeria

Nigeria produces enough sorghum to meet local demand, as well as exporting 50K Tons per year informally to neighboring countries. Estimated industrial demand is 200,000 MT



#### **Emerging Value Chains**



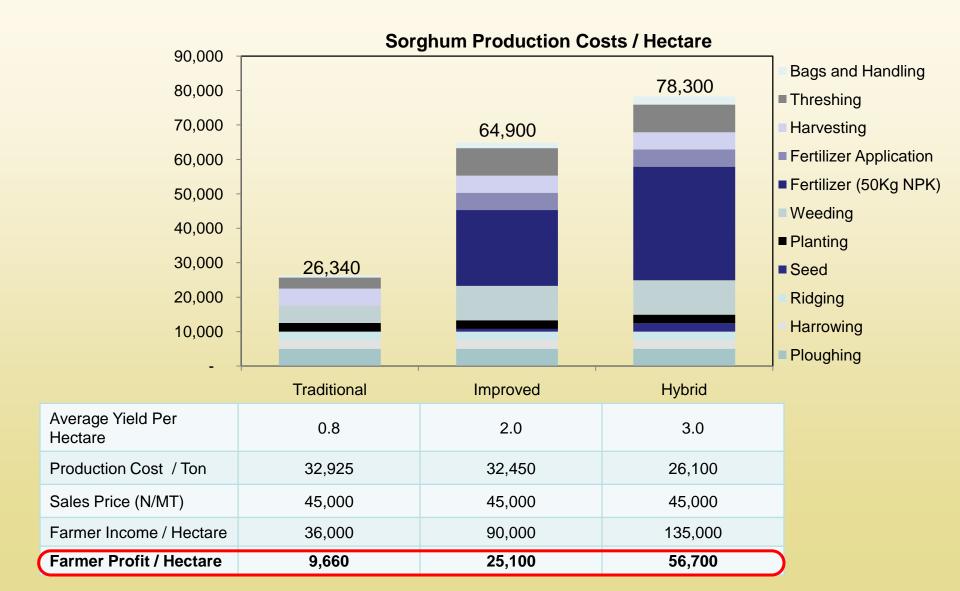


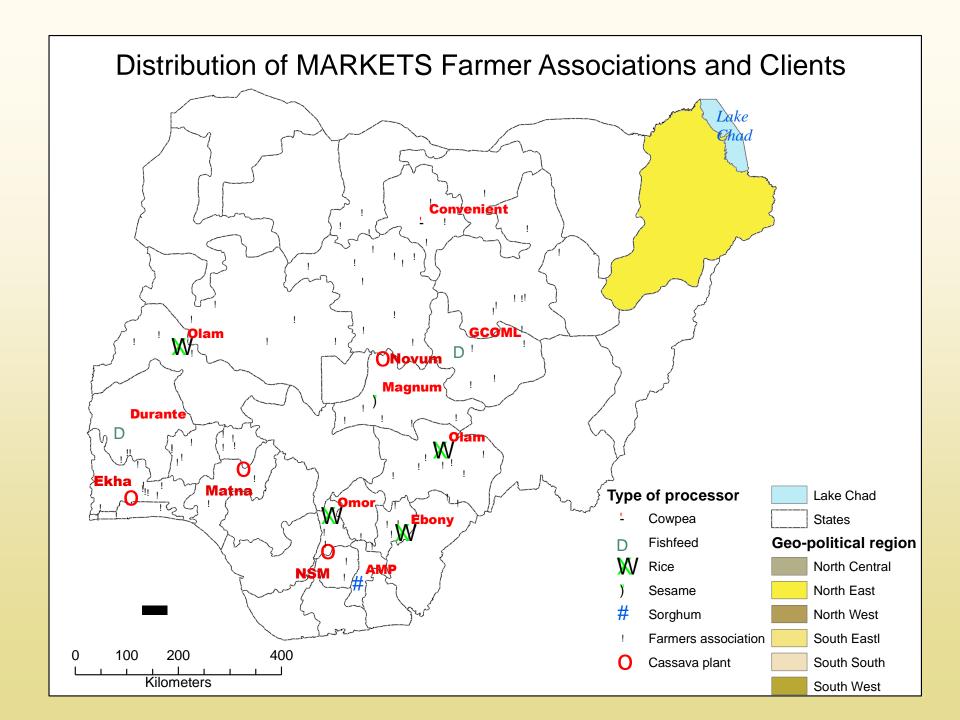
#### Challenges

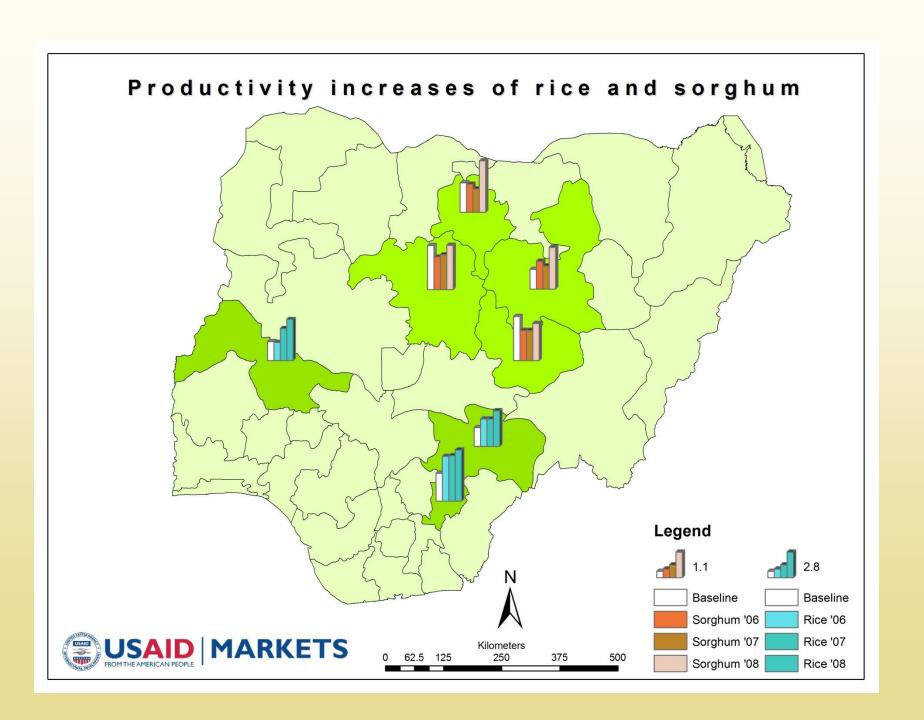
- Low average yields (<1 t/ha)</li>
- High costs & poor quality of inputs
- Small size and scattered farms
- Poorly developed service markets (inputs, mechanization, finance etc.)
- High costs of production and transportation



# Building a Competitive Sorghum Industry Production: Cost to Produce Sorghum







#### **Thank You!**





**MARKETS**